2005 Wildlife Damage Abatement and Claims Program Annual Report to the Legislature

By the Wisconsin Department of Natural Resources, Wildlife Damage Abatement and Claims Program¹

May 31, 2006

The 1997 Wisconsin Act 27 established a requirement that the Department of Natural Resources (DNR) shall prepare an annual report to be submitted to the appropriate standing committees on specific aspects of the Wildlife Damage Abatement and Claims Program (WDACP). This report is due by June 1 following the previous calendar year WDACP program activities. The Legislature detailed in statute [s. 29.889(11)(a), Stats.] that the following information be included in the report: 1) identification of all the wildlife damage believed to have occurred in the state, 2) the wildlife damage claims that were filed under the WDACP, 3) the wildlife damage abatement measures that were recommended or implemented under this section, 4) the percentage of the total number of filed wildlife damage claims that are rejected for failure to meet the requirements of the program, and 5) the percentage of the total number of wildlife damage claims for which the amount of the payment to the claimant was prorated. We address each of these issues, in order, below.

All Wildlife Damage

The statute [s. 29.889(11)(a)1., Stats.] directs the DNR to identify all wildlife damage that has occurred in the state. If taken in the most literal and broad sense, this would be an immense amount, probably totaling in the billions, and would include such things as car/deer collisions and the associated costs of human injuries and property damage. If limited to all wildlife damage to agriculture, the amount would be just as inaccessible, because "all" implies a need to sample damage caused by a wide variety of wildlife that feed on crops and prey on livestock. Agriculture is Wisconsin's top industry, with approximately 16 million acres in production and a value of nearly \$6 billion. Although the WDACP appraises damage caused by wild deer, elk, bear, geese and turkeys on thousands of acres of Wisconsin's cropland each year (over 90,108 acres appraised in 2005, with just over 13,939 acres damaged by deer, 271 acres damaged by bear, 357 acres damaged by geese and 41 acres damaged by turkeys), these are not statistically valid samples of all deer, elk, bear, goose and turkey damage in Wisconsin. In addition, crop damage caused by raccoons, squirrels and blackbirds to corn alone would likely approach that of deer, bear and geese. Even limiting the question to damage caused by "all" deer, elk, bear, geese, and turkeys to crops and livestock would require conducting an extensive, costly, statistically valid field survey.

The Department of Agriculture, Trade and Consumer Protection attempted to assess total damage caused by deer in Wisconsin in 1984. Their survey estimated statewide deer damage at

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\$36.7 million. However, the survey was based on asking farmers how much deer damage they thought they had, rather than actual appraisals of damaged crops. Such surveys are problematic and likely to be biased.

A report by the National Agricultural Statistics Service (NASS) from the Agricultural Statistics board of the U.S. Department of Agriculture estimated 2001 U.S. agricultural losses valued at \$944 million due to wildlife damage. Wildlife causes approximately \$619 million in damage to field crops, while livestock and poultry totaled 178.2 million, and Vegetables, fruit and nuts totaled \$146.3 million in damage. Deer are estimated to cause 58% of the damage to field crops and 33% of the damage to vegetables, fruits and nuts. Turkeys caused 6% and geese cause 5% of the damage to field crops. This survey was based on asking farmers how much damage they thought they had by specie, rather then by actual appraisals of damaged crops.

Deer Management for 2000 and Beyond is a Conservation Congress-led public participation effort to develop a long-term deer management plan incorporating input from all interested stakeholders. One of the seven study groups of Deer 2000 specifically dealt with Agricultural Damage. The objectives of the Agricultural Damage Study Group included 1) studying the impacts of the white-tailed deer on agricultural crops in Wisconsin, and 2) attempting to quantify the amount of agricultural deer damage that is occurring statewide, regionally, and locally. The group asked several group members (two DNR biologists, and one USDA biologist), to estimate total deer damage in Wisconsin. Using available data from the WDACP and other sources, they estimated that deer damage \$7-28 million of agricultural crops each year in Wisconsin (Final Report of the Agricultural Damage Study Group, August 1, 2000; available upon request from Wisconsin DNR, WM/4, PO Box 7921, Madison, WI 53707-7921). The large range in damage is due to the lack of statistically valid survey data upon which to base the estimate. In addition, the authors caution that the estimate is rough, and likely conservative, because of several major assumptions they made to generate the estimate.

It is not possible to accurately estimate 'all' deer damage in Wisconsin (or elk, bear, goose, or turkey damage), without an extensive statistically valid sample of all crops across the state. To conduct such a study would be costly, but the Group felt strongly that this information is critical for future decision making. As a result, one of the 13 recommendations of the Agricultural Damage Study Group is that the WDACP 'develop guidelines to spend a specific portion of WDACP funds for research related to the occurrence of wildlife damage in Wisconsin, to include a statistically valid study to determine the total amount of deer damage occurring locally, regionally and statewide'.

2005 Wildlife Damage Claims

In 1998 the managing agencies of the WDACP, DNR, participating Counties, and the United States Department of Agriculture-Wildlife Services (USDA-WS), implemented the new regulation changes resulting from 1997 Wisconsin Act 27. The changes included increased program benefits to farmers, such as increasing the maximum claim from \$5,000 to \$15,000, decreasing "out-of-pocket" abatement cost-sharing from 50% to 25% and adding damage caused by turkeys and damage to harvested crops. The regulation changes also improved enforcement of hunting access requirements. The latter change, in conjunction with an above average growing

and harvest season, with bumper crops and lower crop prices, resulted in fewer farmers enrolling in the program and filing claims in 1998 compared to previous years (approximately 2,400 enrolled and 1,070 filing claims in 1997; 769 enrolled and 490 filing claims in 1998). The number of enrollees and claimants has increased each year from 1998 through 2004 (769 enrolled and 490 filing claims in 1998 to 1083 enrolled and 642 filing claims in 2004, see Table 1). The number of enrollees and claimants has decreased in 2005 to 1092 enrolled and 555 filling claims. However, both figures remain well below 1997 levels. The number of claims currently held in abeyance or denied by either the counties or the DNR is low (Table 1). The small number of problem claims reflects sound program administration resulting from the program Technical Manual and detailed rules, written with close direction in the 1997 statute from the Legislature.

2005 Wildlife Damage Abatement Measures Prescribed

Damage abatement measures are crucial to reducing current year damage losses and costs to the State for compensation. In 2005, the WDACP built twenty-three, 8ft tall, high tensile, woven wire fences, which collectively measured 29.7 miles in length and cost the program \$347,345 (Table 2). These fences protect high value crops, and over their 25 to 30 year life spans (cost-benefit is actually assessed on the 15 year contract period) will save the state and the growers millions of dollars.

In 2005, we issued 720 deer damage shooting permits across the state under which 5,621 deer were removed (Table 3). Agricultural deer damage shooting permits have very low material costs to the program. When aggressively used, agricultural deer damage shooting permits are very effective in reducing current year damage and damage the subsequent year in hot spot areas. Because deer are an abundant wildlife species, agricultural deer shooting permits have very little impact on deer populations at the Deer Management Unit scale, yet they give farmers the ability to control deer numbers on their land.

New in 2003, farmers enrolled in the WDACP who experience \$1000 or more of claimed deer damage would be automatically issued a shooting permit by February 15th of the following year. These farmers will have to meet a harvest objective of 80% of the harvest quota by September 15th to be eligible to receive claims. Farmers, who filed a deer damage claim greater then \$1000 in 2003, are automatically issued a shooting permit by February 15th, 2004.

Agricultural damage shooting permits are rarely issued for bear, goose and turkey damage, as the behavior of these animals lends itself to non-lethal methods of abatement (Table 4). Turkeys rarely cause the \$1,000 worth of damage necessary to be eligible for a shooting permit. Geese are a federally managed species, and goose depredation shooting permits are limited by the United States-Fish and Wildlife Service (they can only be used within the Horicon Zone). In 2005, approximately 130 geese were removed in the Horicon zone through the use of agricultural damage permits.

The most frequent damage abatement method used for bears is trapping and translocation of bears damaging agricultural crops (Table 5). Bears most frequently damage corn in the milk stage. Because of the narrow window when corn is vulnerable to extensive bear damage,

effective bear damage control is obtained by live-trapping the bears and relocating them 40 miles or more away. Though translocated bears often return to their home ranges (Massopust 1984), University of Wisconsin-Stevens Point researchers (Massopust 1984) found that males would not return for 14 days and females for an average of 34 days. This allows corn to mature past the vulnerable milk stage, making the corn less susceptible to bear damage (Stowell and Willging 1992). In 2005, 239 bears were trapped and translocated to locations away from the crops they had been damaging.

A variety of other abatement measures are used to reduce current and future wildlife damage losses (Table 6). One abatement measure all applicants are required to comply with is providing hunting access to the public. In Wisconsin, hunting is the primary means for controlling populations of wild deer, elk, bear, geese and turkey. Hunters remove animals causing damage during the regular hunting seasons, as well as at other times of the year under agricultural damage shooting permits. Scare devices (pyrotechnics, propane cannons and mylar flagging are very effective goose and turkey abatement measures, especially if used soon after damage starts), temporary fencing, and repellents are other commonly used damage abatement measures. Occasionally, circumstances call for rapid harvest of crops. In situations with low, yet widespread and fragmented damage there may be little practical abatement available.

Rejected Claims

As of 31 May, 2006, the DNR is holding 4 claims in abeyance (Table 1). This means that we question whether or not the claimant has complied with claims eligibility requirements. We hold these claims until the county or the claimant provides further information demonstrating compliance. If no such information is provided, we are required to deny the claim. At this time, the DNR has denied 0 claims (Table 1). Individual counties have denied 63 claims to date because claimants did not comply with eligibility requirements. These claims denied by the counties are not audited by the DNR—the county denial decision is treated as final by the DNR. A farmer's appeal is through the county's process.

Prorated Claims

It was not necessary to prorate any WDACP claims in 2005. Total costs for the WDACP in 2005 did exceed revenues collected in 2005, because of the number of Zone T units in 2005 in which bonus permits are free. However, revenues from bonus permit sales and the hunting license surcharge in previous years were sufficient to pay for program administration, abatement and claims expenditures in 2005, including Wisconsin Deer Donation 2005 expenditures.

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Table 1. 2005 Wildlife Damage Abatement and Claims Program statistics, by county. Source: WDNR WDACP Database and personal communication with USDA-Wildlife Services and county wildlife damage specialists.

County	Number of	Number of	Total appraised	Total payable	Number of	Number of	Number of	Number of
	enrollees	claims filed	damage	damage to date	claims held	claims denied	claims held by	claims denied
					by county	by county	WDNR	by WDNR
Adams	26	20	\$46,847.46	\$37,895.18	1	3	0	0
Ashland	5	1	\$2,194.68	\$1,944.68	0	0	0	0
Barron	15	6	\$5,865.54	\$4,950.54	0	0	0	0
Bayfield	14	6	\$23,138.45	\$15,936.80	0	2	0	0
Brown	16	9	\$53,255.02	\$35,086.49	0	0	0	0
Buffalo	7	1	\$188.56	\$171.06	0	0	0	0
Burnett	22	18	\$30,972.16	\$25,391.53	0	1	1	0
Calumet	5	3	\$11,062.18	\$10,019.83	0	0	0	0
Chippewa	17	1	\$1,368.80	\$0.00	0	1	0	0
Clark	36	10	\$8,953.03	\$6,786.71	0	1	0	0
Columbia	27	13	\$35,677.17	\$32,147.55	0	0	0	0
Crawford	5	2	\$32,077.92	\$25,566.02	0	0	0	0
Dane	30	17	\$18,916.11	\$15,276.52	0	0	0	0
Dodge	39	11	\$16,649.80	\$13,848.13	0	0	0	0
Door	36	7	\$33,092.17	\$3,906.73	0	3	0	0
Douglas	4	0			0	0	0	0
Dunn	18	4	\$4,648.39	\$3,737.27	0	1	0	0
Eau Claire	5	0			0	0	0	0
Florence	13	7	\$7,548.52	\$6,045.42	0	0	0	0
Fond du Lac	20	10	\$22,110.91	\$17,700.20	0	2	0	0
Forest	1	0			0	0	0	0
Grant	25	20	\$76,292.10	\$57,244.79	0	2	0	0
Green	0	0			0	0	0	0
Green Lake	20	15	\$49,938.97	\$43,950.53	0	1	0	0
Iowa	23	12	\$14,689.94	\$11,976.09	0	1	0	0
Iron	1	1	\$612.22	\$362.22	0	0	0	0
Jackson	16	9	\$16,669.88	\$14,256.92	0	0	0	0
Jefferson	7	3	\$1,513.61	\$763.61	0	0	0	0
Juneau	13	5	\$12,201.67	\$2,686.67	0	0	0	0
Kewaunee	7	3	\$1,938.55	\$1,438.55	0	0	0	0
La Crosse	7	4	\$2,933.04	\$2,139.51	0	0	0	0
Lafayette	1	0			0	0	0	0
Langlade	18	7	\$65,364.32	\$16,358.90	0	0	0	0
Lincoln	13	3	\$4,843.30	\$4,093.30	0	0	0	0

County	Number of enrollees	Number of claims filed	Total appraised damage	Total payable damage to date	Number of claims held by county	Number of claims denied by county	Number of claims held by WDNR	Number of claims denied by WDNR
Manitowoc	14	7	\$39,852.81	\$35,772.51	0	0	0	0
Marathon	64	17	\$40,190.70	\$27,462.02	0	4	0	0
Marinette	64	56	\$250,251.44	\$183,840.19	0	12	2	0
Marquette	32	21	\$112,182.78	\$69,600.33	0	3	0	0
Milwaukee	3	2	\$1,658.24	\$1,158.24	0	0	0	0
Monroe	19	3	\$8,377.87	\$7,411.19	0	0	0	0
Oconto	5	3	\$1,986.08	\$1,236.08	0	0	0	0
Oneida	4	2	\$14,503.96	\$12,240.87	0	0	0	0
Outagamie	42	29	\$186,914.39	\$144,765.93	2	0	0	0
Ozaukee	4	1	\$1,050.14	\$800.14	0	0	0	0
Pepin	3	0			0	0	0	0
Pierce	15	2	\$2,061.88	\$1,561.88	0	0	0	0
Polk	21	15	\$51,774.39	\$44,599.03	0	2	0	0
Portage	25	13	\$17,980.43	\$10,870.89	0	3	0	0
Price	14	7	\$10,244.41	\$3,725.91	0	2	0	0
Racine	2	1	\$153.00	\$0.00	0	0	0	0
Richland	21	17	\$61,128.71	\$51,876.15	0	2	0	0
Rock	6	3	\$3,637.67	\$3,232.10	0	0	0	0
Rusk	6	4	\$5,235.68	\$4,235.68	0	0	0	0
Sauk	17	11	\$10,254.86	\$7,505.85	0	0	0	0
Sawyer	18	16	\$56,483.07	\$50,596.70	0	0	0	0
Shawano	8	5	\$8,653.95	\$7,403.95	0	0	0	0
Sheboygan	8	4	\$10,059.96	\$8,725.96	0	0	0	0
St. Croix	8	6	\$19,216.56	\$16,524.92	0	1	0	0
Taylor	16	8	\$20,428.89	\$14,384.98	0	1	0	0
Trempealeau	10	7	\$25,528.55	\$17,990.10	0	2	0	0
Vernon	9	1	\$11,766.66	\$10,213.33	0	0	0	0
Vilas	4	2	\$4,019.93	\$3,399.28	0	1	0	0
Walworth	7	0			0	0	0	0
Washburn	12	4	\$6,945.40	\$6,165.40	0	0	0	0
Washington	9	2	\$3,423.10	\$2,986.73	0	0	0	0
Waukesha	4	1	\$229.88	\$0.00	0	0	0	0
Waupaca	14	3	\$2,955.23	\$2,205.23	0	0	0	0
Waushara	30	21	\$37,531.25	\$23,556.51	0	8	0	0
Winnebago	21	13	\$81,037.46	\$66,053.45	0	0	1	0
Wood	25	20	\$70,793.19	\$52,414.68	0	4	0	0
Total	1092	555	\$1,780,076.99	\$1,306,197.96	3	63	4	0

Table 2. Eight foot, high tensile, woven wire, deer barrier fence projects installed in 2005. Source: WDNR WDACP Database and personal communication with USDA-Wildlife Services and county wildlife damage specialists.

County	Number of fences	Cost to WDACP	Linear feet of fence	Acres protected	Crops protected by fence
	of fences	WDACI	of fence	by fence	
Adams	1	\$24,755.25	12,580	227	Produce
Bayfield	1	\$11,666.00	3,660	16	Apple Trees
Dodge	1	\$5,400.00	2,192	11	Apple Trees
Jackson	1	\$23,100.00	9,936	76.6	Cranberries
Juneau	1	\$14,694.75	7,274	80	Cranberries
Manitowoc	1	\$6,730.50	2,180	23.6	Nursery stock
Marquette	1	\$15,214.50	7,395	70	Christmas Trees
Oconto	1	\$7,875.00	3,000	18.5	Carrots
Pierce	1	\$5,610.00	1,986	4	Nursery stock
Portage	1	\$10,125.00	4,469	34	Christmas Trees
Trempealeau	1	\$44,379.00	18,803	143	Orchard
Waupaca	1	\$6,750.00	5,900	6.1	Apple Trees
Waushara	3	\$8,790.00	3,948	32	Nursery stock
		\$8,985.00	3,950	35	Christmas Trees
		\$33,712.00	15,090	200	Christmas Trees
Wood	8	\$11,175.00	5,952	60	Cranberries
		\$12,075.00	5,995	80	Cranberries
		\$12,757.50	5,148	80	Cranberries
		\$12,975.00	6,495	40	Cranberries
		\$15,712.50	7,284	50	Cranberries
		\$29,025.00	11,846	275	Cranberries
		\$13,349.91	5,894	80	Cranberries
		\$12,488.25	5,583	80	Cranberries
Total	23	\$347,345.16	156,560	1,722	

(29.7 miles)

Table 3. Number of Deer Damage Shooting Permits issued in 2005 by county. Source: WDNR WDACP Database. No shooting permits were issued in Counties not listed.

County	Number of permits issued	Number of deer shot
Adams	22	209
Ashland	2	8
Barron	4	40
Bayfield	9	81
Brown	4	14
Buffalo	2	15
Burnett	26	286
Calumet	3	12
Chippewa	8	100
Clark	22	199
Columbia	19	233
Crawford	5	42
Dane	18 14	108
Dodge Door	15	116 58
Douglas	2	36
Douglas	2	23
Eau Claire	4	23
Florence	6	44
Fond du Lac	14	123
Grant	28	136
Green Lake	22	234
Iowa	19	144
Jackson	14	199
Jefferson	3	13
Juneau	5	52
Kewaunee	3	6
La Crosse	2	9
Langlade	6	44
Lincoln	4	25
Manitowoc	9	34
Marathon	31	266
Marinette	63	386
Marquette	31	326
Monroe	11	76
Oconto	3	15
Oneida	2	19
Outagamie	36	258
Pierce	1	14
Polk	15	136
Portage	19	220
Price Richland	8	71
Richiand	21	95 3
KOCK	1	

County	Number of	Number
	permits issued	of deer
		shot
Rusk	3	28
Sauk	14	92
Sawyer	2	17
Shawano	9	95
Sheboygan	6	19
St. Croix	5	36
Taylor	11	72
Trempealeau	11	115
Vernon	5	19
Vilas	4	51
Walworth	2	6
Washburn	14	122
Washington	6	27
Waukesha	1	0
Waupaca	9	45
Waushara	25	178
Winnebago	15	111
Wood	20	196
Total	720	5621

Table 4. Number of Agricultural Damage Shooting Permits for species other than deer issued in 2005, by county. Source: WDNR WDACP Database and personal communication with WDNR Wildlife Biologists and with USDA-Wildlife Services.

County	Species	Number of permits issued	Number of animals removed
Columbia	Turkey	1	1
Dane	Turkey	1	0
Dodge	Goose	3	70
Florence	Bear	6	3
Fond du Lac	Goose	1	60
Iowa	Turkey	1	0
Kewaunee	Turkey	1	5
Langlade	Bear	3	0
Lincoln	Bear	1	0
Marathon	Turkey	2	2
Oneida	Bear	1	0
Price	Bear	1	0
Total		21	141

Table 5. Number of complaints received and bears trapped and translocated as a result of bear damage to agricultural crops, apiaries and livestock in 2005, by county. Source: USDA-Wildlife Services.

	N	umber of complain	nts	Number of bears moved
County *	Apiary	Livestock	Crops	
Ashland		1	2	23
Barron			1	
Bayfield	1	2	6	26
Buffalo	3	1		
Burnett	1	1	7	5
Chippewa	2	3		
Clark	7	1		
Columbia	2			
Douglas	1	2	2	1
Dunn	1			
Eau Claire		1		
Florence			3	51
Forest				8
Iron				1
Jackson	2			
Juneau	3			
Langlade	2		3	9
Lincoln	3	4	1	6
Marathon	8			
Marinette	-	1		
Marquette	2			
Monroe	4			
Oconto	1	2		
Oneida	1	1		3
Outagamie	1			
Pepin	_			
Pierce	1			
Polk	_			
Portage	1			
Price		1	7	6
Rusk		2	7	15
Sawyer	1		15	80
Shawano	1			2.0
St. Croix	_		1	
Taylor			5	1
Trempealeau	2	1		-
Washburn	1	1	1	4
Waushara	1	-	•	·
Wood	-	1		
Total	53	26	61	239

^{*} No complaints about bear damage to agricultural crops were received and no bears causing damage to agricultural crops were trapped in counties not listed.

Table 6. Abatement measures (other than permanent deer barrier fences (Table 2), shooting permits (Tables 3 and 4), and bear traps (Table 5)) prescribed for farmers who submitted claims to the WDACP in 2005, by county. Source: WDNR WDACP Database and personal communication with USDA-Wildlife Services and county wildlife damage specialists.

County	Hunting ¹	Scare devices ²	Repellents	Temporary fencing	Harvest ASAP	No practical abatement	Other ³
Adams		ucvices		reneing	ADAI	1	
Ashland						-	
Barron	2					2	
Bayfield	_					_	
Brown	6	5					
Buffalo		-		1			
Burnett						3	
Calumet		1				-	
Chippewa		-					
Clark		1				1	
Columbia							
Crawford							
Dane		2		5			1
Dodge		_					2
Door			2	2			_
Douglas			_	_			
Dunn	1			1			
Eau Claire				_			
Florence		1					
Fond du Lac		_				1	
Forest						_	
Grant		1					
Green		-					
Green Lake							
Iowa							
Iron							
Jackson							
Jefferson							
Juneau						2	
Kenosha						_	
Kewaunee		1					
La Crosse		1					
Lafayette							
Langlade		3		1			
Lincoln		-		_			
Manitowoc		1					
Marathon		9					
Marinette				2	1		
Marquette				_	-	1	
Menominee						-	
Milwaukee		1				1	
Monroe		*				-	
Oconto							1
							-

County	Hunting ¹	Scare	Repellents	Temporary	Harvest	No practical	Other ³
		devices ²		fencing	ASAP	abatement	
Oneida							
Outagamie	1					1	
Ozaukee	1	1					
Pepin							
Pierce				1			
Polk	2	1				3	1
Portage							
Price		2					
Racine							
Richland							
Rock		2		1			1
Rusk							
Sauk						1	
Sawyer		2		1			
Shawano							
Sheboygan		1					
St. Croix		1				1	
Taylor		1					
Trempealeau							
Vernon							
Vilas		1					
Walworth							
Washburn						1	
Washington							
Waukesha		1					
Waupaca							
Waushara				1		1	
Winnebago		1					
Wood	6			2			
Total	19	41	2	18	1	20	6

¹ Includes all enrollees except those located within city limits, in close proximity to schools, or whose only enrolled property is within an approved WDACP permanent fence.

² Includes cannons, pyrotechnics, and flagging.

³ Includes tree guards, guard dogs, cage exclosures, feeding silage as soon as possible, and changing

planting locations.